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This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3 (canceled)

- 1 Claim 4 (currently amended): For use with a node of a
2 communications network, a method for setting up a
3 connection in response to a request, the method comprising:
4 a) determining a next link of the connection based on
5 routing information;
6 b) determining whether the determined next link of
7 the connection has sufficient capacity to meet that
8 requested by the request;
9 c) if the determined next link of the connection is
10 determined to not have sufficient capacity to meet
11 that requested by the request, repeating (b) and (c)
12 at least once to try an alternative next link;
13 d) if the determined next link of the connection is
14 determined to have sufficient capacity to meet that
15 requested by the request, then (i) updating connection
16 admission control information to reflect the capacity
17 requested by the request and (ii) further requesting a
18 connection identifier;
19 e) accepting a requested connection identifier
20 received;
21 f) providing an interface number and allocation
22 control information to an interface associated with
23 the interface number; and
24 ~~The method of claim 3 further comprising:~~
25 g) if an interface receives an interface number and
26 allocation control information associated with the
27 interface number, then

28 i) determining a bit-vector corresponding to the
29 interface number,
30 ii) determining a first available part of the
31 link, and
32 iii) marking the bit vector such that bits
33 corresponding to the determined first available
34 part of the link are marked as unavailable.

1 Claim 5 (original): The method of claim 4 wherein the link
2 is a time division multiplexed link.

1 Claim 6 (original): The method of claim 4 wherein the link
2 is a wavelength division multiplexed link.

1 Claim 7 (currently amended): The method of claim 4 ~~1~~
2 further comprising:
3 ~~h~~e) accepting allocated capacity information;
4 ~~i~~f) updating switch mapping information in response
5 to the received allocated capacity information; and
6 ~~j~~g) updating state information based on the allocated
7 capacity information.

1 Claim 8 (currently amended): The method of claim 4 ~~3~~
2 further comprising:
3 ~~h~~g) accepting allocated capacity information;
4 ~~i~~h) updating switch mapping information in response
5 to the received allocated capacity information;
6 ~~j~~i) updating state information based on the allocated
7 capacity information; and
8 ~~k~~h) generating a set up message including the
9 connection identifier and the interface.

Claim 9 (canceled)

1 Claim 10 (currently amended): The apparatus of claim 13 9
2 wherein the programmable device is a field programmable
3 gate array.

Claims 11 and 12 (canceled)

1 Claim 13 (currently amended): For use with a node of a
2 communications network, the node having interfaces
3 terminating communications links, an apparatus for setting
4 up a connection in response to a request, the apparatus
5 comprising:
6 a) at least one storage device storing
7 i) routing information;
8 ii) connection admission control information;
9 and
10 b) a programmable device adapted to
11 i) determine a next link of the connection based
12 on the routing information;
13 ii) determine whether the determined next link
14 of the connection has sufficient capacity to meet
15 that requested by the request of the call;
16 iii) repeat (ii) and (ii) at least once to try
17 an alternative next link if the next link of the
18 connection is determined to not have sufficient
19 capacity to meet that requested by the request;
20 iv) update the connection admission control
21 information to reflect the capacity requested by
22 the request and request a connection identifier
23 if the determined next link of the connection is

24 determined to have sufficient capacity to meet
25 that requested by the request
26 v) accept a requested connection identifier;
27 vi) provide an interface number and allocation
28 control information to an interface associated
29 with the interface number; and
30 ~~The device of claim 12 wherein the programmable device is~~
31 ~~further adapted to~~
32 — vii) if an interface receives an interface
33 number and allocation control information
34 associated with the interface number, then
35 i) determining a bit-vector corresponding
36 to the interface number,
37 ii) determining a first available part of
38 the link, and
39 iii) marking the bit vector such that bits
40 corresponding to the determined first
41 available part of the link are marked as
42 unavailable.

1 Claim 14 (original): The device of claim 13 wherein the
2 link is a time division multiplexed link.

1 Claim 15 (original): The device of claim 13 wherein the
2 link is a wavelength division multiplexed link.

1 Claim 16 (currently amended): The device of claim 13 ⁹
2 wherein the programmable device is further adapted to
3 - accepting allocated capacity information;
4 - updating switch mapping information in response to
5 the received allocated capacity information; and

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- 6 - updating state information based on the allocated
7 capacity information.

Claims 17-20 (canceled)

- 1 Claim 21 (previously presented): The method of claim 22
2 wherein the communications resources is bandwidth.

- 1 Claim 22 (previously presented): For use in call signaling
2 protocol, a method for use by a node of a communications
3 network to determine a link of a connection, the method
4 comprising:
5 a) determining a next hop of the connection based on
6 routing information;
7 b) determining a link associated with the determined
8 next hop;
9 c) determining whether or not the determined link has
10 sufficient communications resources to satisfy the
11 call; and
12 d) only if it is determined that the determined link
13 has sufficient communication resources to satisfy the
14 call, then allocating communication resources of the
15 link to the call,
16 wherein the link is a multiplexed link having
17 channels, and
18 wherein the act of allocating communication resources
19 of the link to the call includes determining available
20 channels of the link until the sum of capacity of the
21 determined available channels is enough to satisfy the
22 call.

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1 Claim 23 (original): The method of claim 22 wherein the
2 link is a time division multiplexed link and wherein the
3 channels are time-slots.

1 Claim 24 (original): The method of claim 22 wherein the
2 link is a wavelength division multiplexed link and wherein
3 the channels are wavelengths.

Claim 25 (canceled)

1 Claim 26 (previously presented): The apparatus of claim 27
2 wherein the communications resources is bandwidth.

1 Claim 27 (currently amended): For use in call signaling
2 protocol, apparatus ~~a method~~ for use by a node of a
3 communications network to determine a link of a connection,
4 the apparatus ~~method~~ comprising:
5 a) means for determining a next hop of the connection
6 based on routing information;
7 b) means for determining a link associated with the
8 determined next hop;
9 c) means for determining whether or not the
10 determined link has sufficient communications
11 resources to satisfy the call; and
12 d) means for allocating communication resources of
13 the link to the call only if it is determined that the
14 determined link has sufficient communication resources
15 to satisfy the call, ~~then allocating communication~~
16 ~~resources of the link to the call,~~
17 wherein the link is a multiplexed link having
18 channels, and

19 wherein the means for allocating communication
20 resources of the link to the call includes means for
21 determining available channels of the link until the sum of
22 capacity of the determined available channels is enough to
23 satisfy the call.

1 Claim 28 (original): The apparatus of claim 27 wherein the
2 link is a time division multiplexed link and wherein the
3 channels are time-slots.

1 Claim 29 (original): The apparatus of claim 27 wherein the
2 link is a wavelength division multiplexed link and wherein
3 the channels are wavelengths.

1 Claim 30 (currently amended): The method of claim 4 ~~1~~
2 wherein the act of updating connection admission control
3 information to reflect the capacity requested by the
4 request if the determined next link of the connection is
5 determined to have sufficient capacity to meet that
6 requested by the request, includes decreasing the capacity
7 of the link.

1 Claim 31 (currently amended): The apparatus of claim 13 ~~9~~
2 wherein the programmable device is adapted to update the
3 connection admission control information to decrease the
4 capacity of the link to reflect the capacity requested by
5 the request if the determined next link of the connection
6 is determined to have sufficient capacity to meet that
7 requested by the request.